

DR 1335

(12)

METEOROLOGICAL DATA PEPORT

19321A MLRS
Missile Number 5827, 5831, 5829, 5832, and 5830
ROUND Number *V-564/FB-07, thru V-568/FB-11
10 Feb 1984

by

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ATMOSPHERIC SCIENCES LABORATORY WHITE SANDS MISSILE RANGE, NEW MEXICO

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UNITED STATES ARMY ELECTRONICS COMMAND



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DR 1335	110- 1116	933
4. TITLE (and Substite) 19321A MLRS Missile Number 5827, 5 and 5830	5831, 5829, 5832,	S. TYPE OF REPORT & PERIOD COVERED
ROUND Number V-564/FB-07 thru V-56	58/FB-11	6. PERFORMING ONG. REPORT NUMBER
7. AUTHOR(4)		B. CONTRACT OR GRANT NUMBERS
White Sands Meteorological Team		DA Task 1F6657020127-02
9. PERFORMING ORGANIZATION NAME AND ADDRESS		IO. PHOGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT HUMBERS
11. CONTHOLLING OFFICE NAME AND ADDRESS		12. REPORT DATE
US Army Electronics Research & Deve Atmospheric Sciences Laboratory Unite Sands Missile Range, New Mexi	•	13. NUMBER OF PAGES
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Meteorological data gathered for the Number 5827, 5831, 5829, 5832, and Routh Number, V-564/FB-07 thru V-	ne launching of t	the 19321A MLRS, Missile

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INTRODUCTION

19321A MLRS, Missile Numbers 5827, 5831, 5829, 5832, and 5830, Round No. V-564/FB-07 thru V-568/FB-11, were launched from Tula Gate, White Sands Missile Range (WSMR), New Mexico, at 0909:23, 0909:27, 0909:32, 0909:36, and 0909:41, MST 10 Feb 84. The scheduled launch times were 0900 MST with a 4.5 second separation.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

- a. Surface
- (1) Standard surface observations to include pressure, temperature (C°), relative humidity, dew point (C°), density (gm/m^3) , wind direction and speed, and cloud cover were made at the Tula Met Site at T-O minutes.
- (2) Anemometer data were provided from existing tower-mounted anemometers at Tula Gate. Monitor or wind speed and direction from one anemometer was also provided in launch control room.
 - b. Upper Air
- (1) Low level wind data were obtained from pilot-balloon observations at:

SITE AND ALTITUDE

Tula Gate 1150 Meters Mal 2000 Meters

(2) Air structure data (rawinsonde) were collected at the following Met Sites.

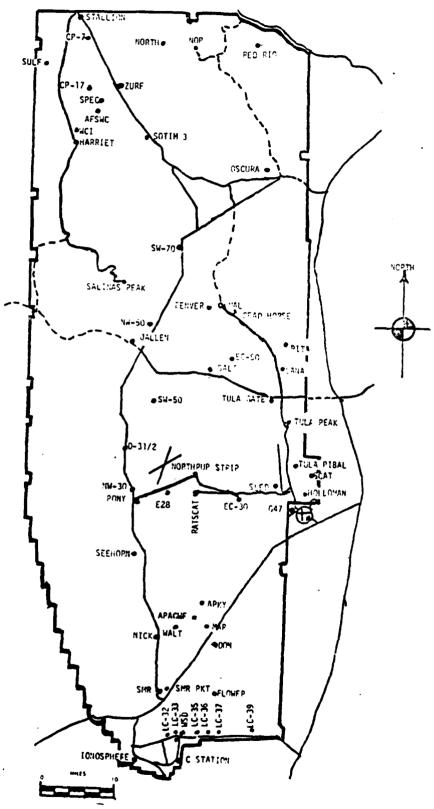
SITE AND TIME

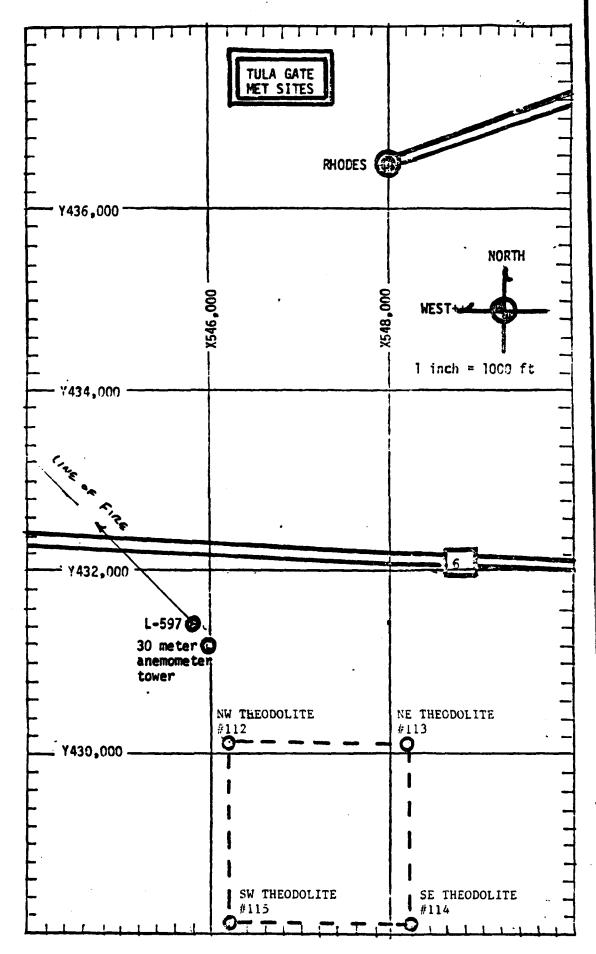
Rita 0715 MST Lana 0730 MST Lana 0900 MST Rita 0910 MST





WSMR METEOROLOGICAL SITES





CHICCOSTO PLANA 103 cdd

DATE 10 Feb. 10.0 -7.3 29 160 11 402.47 409 11 409.44.89 12.41,158.70	TABLE				i !				TULA SITE	SITE	-	
PRESSURE TEMPENATURE DEW FOLIST TEMPENATURE SPELD CHARACIER Inbs CF	J.T.E. 10	Feb	V.B.A	1					×=545,944.89		11,158.70	4102.47
872.1 10.0 –7.3 29	1115	PRESSU mbs		30) : X36	35 1616	12 12 12 12 12 12 12 12 12 12 12 12 12 1		011011011 cees In	E110 SPELD Kts	LIIA: ACTER Ats	#15181L- 17Y
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TIPE: 0910 DRY BULG TEFF. 10.0° WET BULB TEFF. 2.9° WET BULB LEPP. 7.1 DUM POINT -7.3° RELATIVE HUMIN. 29				•
	TIVE:	0160		;
	DRY BULB TETP.	10.0		,
. =	WET BULB TEIP.	2.9°	<u> </u>	
RUPTO.	MET BULB LEPP.	7.1		
	DUM POTRT	-7 30		
	RELATIVE HUMIO.	29		

TABLE 2 ANEMOMETER DATA - 30 Ft Level of 30 Meter Tower
X= 545,944.89 Y= 431,158.70 H= 4102.47 (BASE)

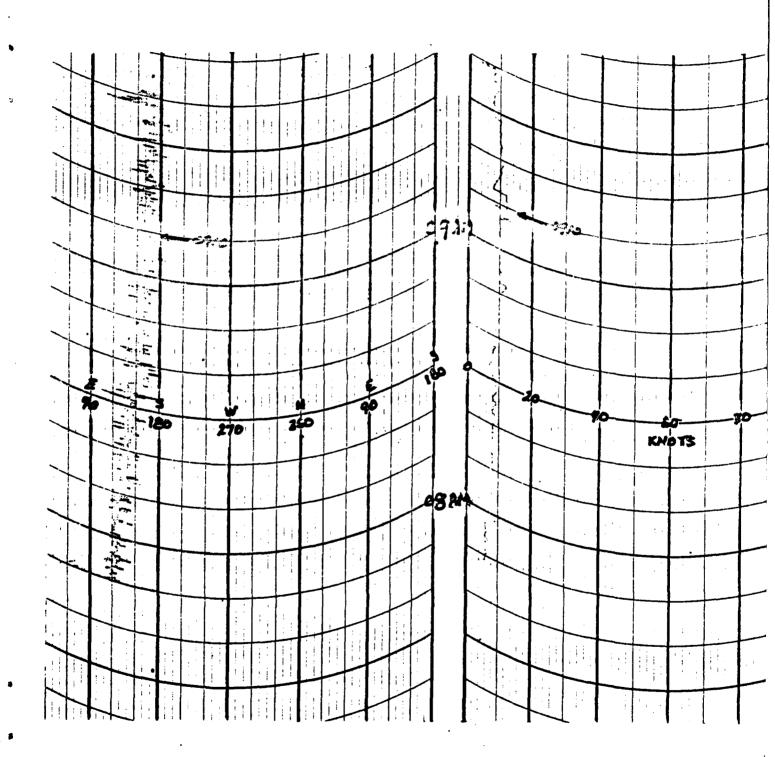


TABLE 3 ANEMOMETER DATA - 60 Ft Level of 30 Meter Tower X= 545,944.89 Y= 431,158.70 H= 4102.47 (BASE)

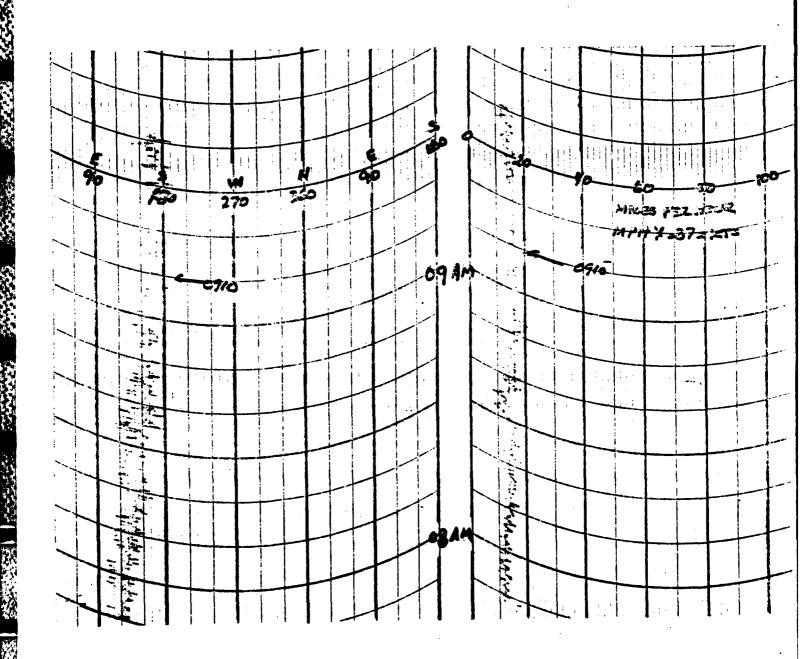
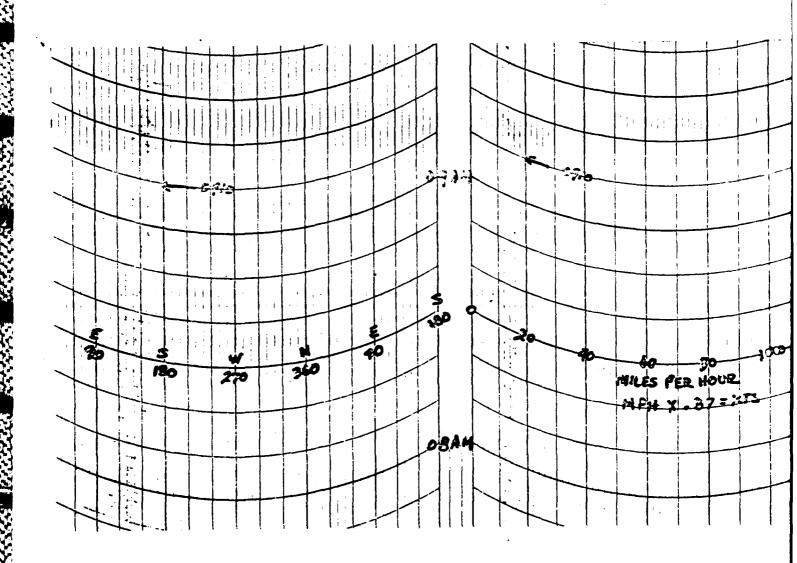


TABLE 4 ANEMOMETER DATA - 90 Ft Level of 30 Meter Tower

X= 545,944.89 Y= 431,158.70 H= 4102.47 (BASE)



TABL	Ε	5		
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T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 10 Feb 84

SITE: Tula Gate

TIME:0909 MST

WSTM COORDINATES:

y₌ 546,204.20

Y = .430, 125.39

H= 4,108.59

SITE: MAL

TIME 0909 MST

WSTM COORDINATES:

 $\chi = 509,421.05$

Y = 497,563.78

H= 4,133.09

LAYER MIDPOINT	DIRECTION	SPEED	LAYER MIDPOINT	DIRECTION	SPEED
METERS AGL	DEGREES	KNOTS	METERS AGL	DEGREES	KMOTS
SURFACE	160	11	SURFACE	140	02
150	190	08	150	167	08
210	216	08	210	173	09
270	226	09	270	181	10
330 .	236	10	330	189	10
390	244	11	390	192	12
500	253	13	500	193	14
650	252	14	650	203	15
800	247	12	800	222	15
95C	246	13	950	238	19
1150	254	13	1150	237	22
1350			1350	240	21
1550			1550	242	24
1750			1750	243	28
2000			2000	243	30

Data obtained from a Double Theodolite tracked pilot-balloon observation.

Data obtained from a single theodolite tracke pilot-balloon observation.

AIMING AND T-TIME COMPUTER MET MESSAGES 10 Feb 84

METCM1332062 METCM1331062 101430128872 101450127872 00000000 27170872 00213004 27110872 01329016 27710862 01319012 27910862 02358014 28250836 02335013 28310836 03418012 28230796 03385015 28110796 04456017 27910749 04438015 27800749 05472025 27530705 05458022 27500705 06480029 27160662 06464027 27130662 07468032 26780622 07464039 26760621 08470030 26410583 08460039 25930546 10470044 25550511 10464044 25505511	Rita 0715 MST	Lana 0730 MST
00000000 27170872 00213004 27110872 01329016 27710862 01319012 27910862 02358014 28250836 02335013 28310836 03418012 28230796 03385015 28110796 04456017 27910749 04438015 27800749 05472025 27530705 05458022 27500705 06480029 27160662 06464027 27130662 07468032 26780622 07464039 26760621 08470030 26410583 08460039 26380583 09468039 25990546 09462039 25930546 10470044 25550511 10464044 25505511	METCM1332062	METCM1331062
01329016 27710862 01319012 27910862 02358014 28250836 02335013 28310836 03418012 28230796 03385015 28110796 04456017 27910749 04438015 27800749 05472025 27530705 05458022 27500705 06480029 27160662 06464027 27130662 07468032 26780622 07464039 26760621 08470030 26410583 08460039 25930546 10470044 25550511 10464044 25505511	101430128872	101450127872
01329016 27710862 01319012 27910862 02358014 28250836 02335013 28310836 03418012 28230796 03385015 28110796 04456017 27910749 04438015 27800749 05472025 27530705 05458022 27500705 06480029 27160662 06464027 27130662 07468032 26780622 07464039 26760621 08470030 26410583 08460039 25930546 10470044 25550511 10464044 25505511	00000000 27170872	00213004 27110872
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04456017 27910749 04438015 27800749 05472025 27530705 05458022 27500705 06480029 27160662 06464027 27130662 07468032 26780622 07464039 26760621 08470030 26410583 08460039 26380583 09468039 25990546 09462039 25930546 10470044 25550511 10464044 25505511	02358014 28250836	02335013 28310836
05472025 27530705 05458022 27500705 06480029 27160662 06464027 27130662 07468032 26780622 07464039 26760621 08470030 26410583 08460039 26380583 09468039 25990546 09462039 25930546 10470044 25550511 10464044 25505511	03418012 28230796	03385015 28110796
06480029 27160662 06464027 27130662 07468032 26780622 07464039 26760621 08470030 26410583 08460039 26380583 09468039 25990546 09462039 25930546 10470044 25550511 10464044 25505511	04456017 27910749	04438015 27800749
07468032 26780622 07464039 26760621 08470030 26410583 08460039 26380583 09468039 25990546 09462039 25930546 10470044 25550511 10464044 25505511	2.300.03	05458022 27500705
08470030 26410583 08460039 26380583 09468039 25990546 09462039 25930546 10470044 25550511 10464044 25505511		06464027 27130662
09468039 25990546 09462039 25930546 10470044 25550511 10464044 25505511		07464039 26760621
10470044 25550511 10464044 25505511	20.2000	08460039 26380583
10404044 25505511		09462039 25930546
	2000011	10464044 25505511
11475046 25060478 11474048 25090478		11474048 25090478
12473044 24660431 12474045 24650431	12473044 24660431	12474045 24650431

Lana 0900 MST	Rita 0910 MST
METCM1331062	METCH1332062
101626127872	101600128872
00284004 28310872	00311004 28230872
01325009 28330862	01323011 28300862
02361014 28360836	02356017 28330836
03430022 28150797	03415020 28120797
04459032 27870750	04454031 27850750
05446028 27540705	05454028 27560705
06451034 27210662	06457032 27160662
07456036 26810622	07462033 26730622
08450042 26420583	08455035 26340583
09454039 26040547	09458036 26000546
10460040 25580512	10465037 25560511
11456042 25160479	
	11456038 25190478
12467042 24730432	12473038 24730431

GEODETIC COURDINATE 33.18295 LAT DE 106.15114 LON DE	REL.HUM. Percent	0 2 2	31.0	0.94	22.0	21.0	0.05	0.05	0.05	0.09	75.0	75.0	81.0	59.0	68.0	0.23	25.0	0.61	
0 A T		14	, ,-,	7			•	, ,	,	•			~	•	•	•		•	
SIGNIFICANT LEVEL DATA 0410210304 PLTA TABLE 7	TEMPERATURE IR DEWPOINT REFS CENTIGRADE	-18.4	-10.3	-10.8	-11.2	-11.8	-14.6	-19.0	-28.7	-25.1	-26.0	-28.5	-27.0	- 30.5	-35.5	0.01-	-47.3	9.25-	
SIGRIFICAN 0410 PITA TABLE 7	TEMPE AIR Degrefs	-1.9	2.5	7.4	7.6	7.0	6.7	1.5	-10.1	-19.3	-22.8	-25.4	-24.7	-26.6	-27.9	-30:3	-34.3	-37.7	
۔	GENMETRIC Altitude Asl feet	4186.7	4578.0	4874.1	5143.3	6475.2	7847.6	0.106.6	5263.1	6682.5	98'02.9	0387.4	1244.1	2329.7	3193.4	4015.3	6195.6	7041.4	
10N ALTITUDE 4186.74 FELT "SL Eb. 84 C715 "HS MST "NSION NO. 4	P"ESSURF GENMETRIC ALTITUDE MILLIDAKS MSL FEET					7.01.4													
10N ALTITUBE 4 Eb. 84 .NSIOR NO. 4																			

ITTON AL	T17U9E 41	86.74 FEET	ET MSL '	-	UPPER AIR DA 0410210004 RITA	0ATA 104		6600ET1	ETIC CODEDINATES 33.18295 LAT DEG
Z	NO.				TABLE 8			106.	LON DE
METRIC FITUDE	_	4	PERATURE DEMPOINT	REL.HUM. PFRCENT	NS1 TV / CUB 1C	SAFED OF SOUND	EIND DIRFCTION	SPEED	- ;
FEE (MILLIBARS	DEGRFES	CENT 16R ADE		METER	KNOTS	DEGRFES(TN)	KNOTS	REFRACTION
4166.7	72.	٠	-18	2	•	641.		•	25
500	-	>	-	30.2		979		1.8	.00025
5000.0	46.	•	-11.0	74.1	•	654		•	0024
	30	•		21.7	1022.9	655			.00024
90	815.5	•	÷	21.4	•	655		ċ	.00023
•	0	7.6	•	21.0	986.2	•	230.1	- ,	2000
2000-0	•	•		20.6	•	0 2 4		<u>.</u> ,	22000.
7500.0	-	•	;	\$0.5 \$0.5		?;	245.1	÷.	77000
8000-0	•	•	٠.	0.02	7.000	0.1.0	1.267	•	4.5000.1
8500.0	÷.	•	•	0,0	•	2.000	K-VC/		1.0002.10
•	٠.	•	•	0.00	• F	9 7	265.1	•	1,2000-1
0.0000	700		18.8 8.8	0.00	C-C08	7.979	266.6	25.4	1.000205
	: 0	•	-10.7	0.00	7		267.9		
: 4	76.	1	-20.7	20.02	863.5	643.5			1.000198
1500			-21.6	20.0	850.6	N		•	•
00	650.6	-2.8		20.0	837.8	640.8	267.6	•	1.000192
	_	-3.9	-23.5	20.0	825.2	39	265.1	•	•
3000	•	-5.0	;	20.0	812.9	638	263.2	•	•
3500		-6.1		20.0	800.7	636	263.5	•	•
÷.	02.	•	-76.5	20.0	788.7	635	263.8	•	•
0.00641	906	200	- () - ()	0.00	0-///	0 7	768.2		•
2500	568.2	-10.7	0.75	8.4	754.0	631.2	262.6	37.5	1,0001
000	56.	-12.1	-26.6	28.6	742.7	629	762.4		1.000169
6500	~	-13.4	-25.7	34.5	731.7	628	262.R	•	•
~	Š	-14.6	-25.5	40.3	720.9	2	763.4	•	1.000165
7500.	524.3	-16.1	-25.0	46.2	710.2	8. 729	1.792	٠	•
900	'n.	-17.5	4.4.	0.25	E . C . C	023.1	165.0	٠	101000
9000		-13.6	-	Y - Y - Y	9 0	61014	7.902		
0000		-21.7	-25.6	• •	9	۰ مد		,	00015
COLO.	73.	-23.4	-26.5		6.0	•	767.4	S	.00015
0500.	63.	-25.3	76.3	`.	51.	*		š	00014
10001	;	6.42-	27	•	7	4		÷	00014
1500.	;	-25.1	27.	8	24.	2	765.4	42.7	0001
2000.	Š	->6.0	•	2.	~	\sim	•	۰	00014
500.	.90	5.92-	7.11.	4		11.	99	, ,	.00017
3000	17.	9.75-		\$2.5	Ň,	200	•	5	1.000134
3500.	6.3C.	0.0/-	9	.	10	0.400	0	•	1 . 1 0 0 0 • 1

STATION ALTSTUDE 4 10 FEB. 84 ASCENSION NO. 4	LTITUBE 41 4 No. 4	186.74 FEET MSL 0715 "MS MST	ET MSL MST		UPPFR AIR DATA 0410210704 RITA TABLE 8 CONT'D	DATA 04 CONT'D		6600671 33. 106.	GEODETIC COORDINATES 33.18295 LAT DEG 106.15114 LON DEG
GEOMETRIC Altitude MSL FEET	PRE SSURE MILLIBARS		TEMFERATURE AIR DEWPUINT DEGRIES CENTINADE	RfL.HUM. Percent	RFL.HUM. DEMSITY Percent GM/Cubic Meter	SPEED OF SOUND RNOTS	MIND DATA DIRECTION SPI DEGREES(TN) KNO	TA SPEED KNOTS	INDEX OF REFRACTION
24000.0	·	- '0 • 3	-38.9	42.1	574.0		268.6	43.6	1.000129
24500.0	~	?• .	-40.7	38.2	563.9		2.075	7.77	1.000127
25000.0	? ₩	7.5	-45.6	34.3	\$54.0	6.409	772.N	6.44	1.000124
25500.0	•	0.2%-	-44.5	30.4	544.3		274.0	43.7	1.000122
26000.0		-34.0	-46.5	26.5	534.8		276.9	42.2	1.000120
26500.0	•	5.5	-49.5	22.9	526.7		279.8	9.64	1.000118
27000.0	351.5	7-LL-	-52.1	19.5	510.4		782.4	38.9	1.000116
27500.0	343.8	4.8.	-54.6	16.7.0	510.0		783.0	37.5	1.000114
28000.0	3,46.1	0.03-	-57.1	13.9**	502.3		782.4	37.1	1.000112
28500.0	328.7	-41.3	- 59.9	11.2**	493.0		281.5	37.5	1.000110
29000.0	321.4	-42.6	-63.1	8.4.0	485.6		780.1	38.6	1.000108
2 95 00 . 0		-43.9	6.99-	5.7.0	477.5		280.1	38.6	1.000106
30000 0		-45.1	-72.4	5.9	469.5				1.000105
30500.0	300.5	7.97-	-89.6	.2.	461.6				1.600103

:

AT LEAST ONE ASSUMED RELATIVE HUMINITY VALUE WAS USED IN THE INTERPOLATION.

MANDATORY LEVELS	0410210004	RITA	TABLE 9
	4186.74 FEET MSL	0715 HRS MST	
	SIATION ALTITUDE 4186.74 FEET MSL	10 feb. 84	ASCENSION NO.

GEODETIC COORDINATES 33.18295 LAT DEG 106.15114 LON DEG

State of the second sec

Service Assessment Company of the Service Company

PRESSURE L	PRESSURE GEOPOTENTIAL	TEN	ERATURE	L.HUH	A ONIX	ATA
MILLIMAPS	. 1334	AIR DEGREES	AIR DEUPOINT PE Grees Centigrade	RCENT	DEGREES (TN) KNO	SPEED
R56.0	4871.	7.4	-10.8	26.	226.2	0.4
PO!.0	6518.	9.3	-11.9	21.	230.4	11.5
750.0	8261.	5.7	-15.4	20.	256.7	17.0
200.00	10097.	1.5	-19.0	20.	566.9	25.8
0°u\$9	12039.	-2.8	-22.6	20.	267.4	27.9
60°00	14102.	-7.5	-26.5	20.	263.8	32.6
\$50.0	16302.	-12.9	-26.0	32.	262.7	39.2
200.0	18658.	-19.3	-25.1	•09	266.2	42.8
450.0	21192.	-24.7	-27.n	81.	265.8	43.0
0°u07	23977.	-30.3	-39.0	42.	268.6	43.6
15°0	27054.	-37.7	-52.7	19.00	282.5	38.6
100°0	30476.	5-97-				

** AT LEAST O"E ASSURED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

GEODETIC COORDINATES 33.13510 LAT DEG 106.15446 LON DEG	. ARII	0				•		•	•		0				-						0		
DA1 A	REL.HUM Percent	39.0	45.0	39.0	16.0	16.0	15.0	15.0	15.	15.0	14.0	17.0	48.	42.0	26.0	58.	73.0	65.0	50.0	38.0	27.	21.0	
SIGNIFICANT LEVEL D 0410320904 LANA TABLE 10	TEMPERATURE IR DEWPOINT REES CENTIGRADE	-14.3	-8-9	-4.7	-15.0	-14.5	-19.1	-20.8	-20.8	-22.5	-31.5	-34.3	6.92-	-29.1	-15.0	-20.1	-26.7	-32.4	-36.1	-40.7	2.44-	-52.8	
SIGNIFI 0 LA LA	TEMPE A18 Degrees	-2.3	2.7	7.8	9.5	10.2	5.4	3.3	3.3	1.2	0.6-	-14.8	-18.7	-19.5	9.02-	-23.8	-23:2	-27.9	-29.0	-31.1	-32.1	-38.8	-41.1
15	GEONETRIC Altitude Msi feet	4173.4	4300.5	4614.7	7.6987	5104.2	8033.7	8746.2	9216.7	10048.6	14679.7	16796.5	18214.8	18651.5	19109.3	20233.9	20648.4	22760.7	23275.6	23985.2	24610.5	27120.1	28013.6
4173.44 FEET "SL 0730 HRS MST 4	PPESSURE FILLIBARS	472.3	1.89	.59.0	9.00 d	642.7	2.952	736.3	723.4	0.00.	7.98.	c 39.3	0.60	200.0	4.06.7		4.69.4		412.3	0.00,	7.89.4	0.64	135.4
STATION ALTITUDE 417 10 feb. B4 Ascension No. 4		-																•					

-	ALTITUDE 417	3.44 FE	ET MSL	-	UPPER AIR BATA 0410320004	DATA .		GE00E 11C	C COORDINATE
ASCENSION	• 0	C #1: 0C L	7		TABLE 11			106.	15510 LAT DEG 15446 LON DEG
GEOMETRIC	PRESSURE	7		H .	\$117	SPEED OF	O ONIB	ATA	INDEX
MSL FEET	MILLIBARS	A 1 F.	CENTIGRADE	T E E E E E E E E E E E E E E E E E E E	r ter	KNOTS	DEGREETION DEGREES(TN)	KNOTS	OF REFRACTION
	72.	-2.3	-14.3	•	2	641.	·		
•	5		ė	ċ	072	651.	55.	4.2	8
000	45.	•	14.	•	1040.3	655.	88	4.7	9
500	30.	٠	15.	ς,	220	655.	20	10.1	8
	•	7 · 0	2:		· ·	654.	80	13.88	5
•	286.2	7 - 7	7.01-	,	~ ~	652.4	^ =	7.91	3 6
7500.0	771.3	6.3	8	15.2	6.096	651.	• ac	16.5	
8000.0		5.5	19.	Š	946.1	650	3.8	•	ĕ
•	•	0.,	-20.5	\$	933.4	648	67.	·	9
0			20.	Š	918.5	647	54.	8	Š
500.		•	2	Š	903.6	249	56.	0	ĕ
•		٠	25	Š	890.6	5	œ .	•	9
500	•	٠	~ ?	•	877.3	77	Ġ.	№.	5
11000.0	677.0	•	5 - 5 7 - 5 - 5 7 -	•	206.1	3	<u>.</u>	•	1.006197
1 2000	•		CX		000	- 9	- 6	0 •	58
12500.0	• 1	7.7	-27.3	14.5	6 3 C • 3				֓֞֝֟֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓
13000.0	625.6	-5.3	-28.2		613.3	, ~		, 60	
13500.0		7-9-	2	•	801.1	636	=	-	6
14000.0	•	~	2		789.1	635	=======================================	P	9
14500.0	•	60	31	;	777.3	633	. 20	0	9
•		٠:	-	•	765.9	632	2	▶ •	1.000173
12200.1	201.00	11.5	C ## (15.6	2.4.0	9 2 6	÷ 0	0 4	9
	45.	0.41-	-33.9	16.6	733.1	6 0	260-1	7 . C. K.	• •
		10	32	21.6	722.4	625	Š	•	3
	•	-16.7	-29.3	•	-	623	5	•	9
000	\$	-18.1	27.	•	-	622	51.	8	9
500.	0	-19.2	26.	44.1	•	9 20	25	•	5
2000	. 76	2.0.2	5	.	•	619	5	90	0
9500	N. I	7.1.2	32.	~		617	· .	œ !	9
200002	7	-65-1	2000	<u>.</u> ,		919	<u>.</u>	•	26
1000		0 7C=	,,,	: -	^ #	610			5 6
1500.	*	2		• •		¥14	· <	, 6	3 5
2000	35.	2	30.	. ~		`~	5.	, 4	
2500.	26.	27	-		~	2			00.
3000.			•	œ		6	57.	•	1.000114
3500.	408.4	2.52-	7	46.2	584.1	0.809	•	44.1	•

14110M AL 1 FEB. 84 1 CENSION	ATION ALTITUDE 4173.44 FEET MSL 1 Feb. 84 ú7.3º "45 m51 (Cension no. 4	73.44 FEI ù7.5º HRS	ET PSL MST	_	CA10320004 LANA TABLE 11 CONT'D	coint'd		66006TI 33.	GEODETIC COORDINATES 33,13510 LAT DEG 106.15446 LON DEG	
EOMETRIC TITUDE EL FERT M	PRESSURE	TEMI A'3 7 DEGRFES	TEMPERATURE A17 DEMPOINT DEGREES CENTIGRADE	PERCENT .	DENSITY SA/CUBIC AFTER	SPEED OF SOUND KNOTS	WIND DATA DIRFCTION SP DEGREES(TN) KN	SPEED KNOTS	IND EX OF REFRACTION	
24000.0		-11.1	-40.8	47.7	575.3		272.5	43.4	1.000129	
24500.0	391.3	6.1	-43.9	28.9	565.0	605.1	275.5	42.8	1.000127	
25000.0		-33.1	0.91-	26.1	\$55.6		278.3	45.4	1.000124	
25500.0		5175-	-47.5	6.45	546.7		781.1	42.1	1.000122	
26000.0		-35.8	-49.1	23.7	537.9		785.7	42.0	1,000120	
26500.0		1.77-	-50.7	22.5	\$29.3		285.8	4.1.8	1.000118	
27000.0		-18.5	-52.4	21.3	\$20.8				1.00011	
27500.0		8.61-	-58.0	12.1**	512.2				1.000114	
28000.0		-41.1	-83.4	•3••	503.7				1.000112	

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE	4173.44 F	15. J.31	E	0410320004	04		GEODETIC COORDINATES
10 FEB. 34	UZ SO HR	SMST		LANA			33.13510 LAT DEG
ASCENSION NO. 4	•			TABLE 12			106.15446 LON DEG
	PRESSURE	PRESSURE GEOPOTENTIAL	TEMP	TEMPERATURE Perbolist	REL.HUM.	ATAB GNIV	=
	MILL IBARS	FEET	DEGREES	DEGREES CENTIGRADE		DEGREES(IN)	KNOTS
	n S di		9.5	-15.0	16.	182.9	0.0
	- uOk		7.0	-16.7	16.	213.4	14.2
	75 r.		£ . 4	-19.6	15.	242.8	15.5
	70u		1.2	-22.5	15.	258.4	21.7
	. 65°		-3.1	-26.3	15.	260.8	29.0
	- 6 009		-7.7	-30.4	16.	260.9	43.5
	550.		-13.4	-33.6	16.	259.7	37.7
	20℃		-19.5	-29.1	.23	203.0	1.93
	457		-24.4	-28.1	71.	267.5	43.7
	*30 *		-31.1	-40.7	38.	272.4	43.5
	350.0	. 6007 5 0	-38.6	-52.5	21.		

STATE STATES

GEODETIC COORDINATES 33.13510 LAT DEG 106.15446 LON DEG

PRESSUR	F GEOMETR	E MPE RAT	3	EL.HU
	ALT 1TUBE	1R 0EV	POI NT	PERCENT
MILLIBAR	S 4SL FEE	EES CEN	=	
72.	173.	7.	•	
	336.	.3		2
54.	722.		_:	-
50.	872.	10.2	٠	0
	995.	10.8	•	6
51.	217.	•	•	8
7.00.0	10102.9	1.7	20.7	17.0
•	1371.	2-	8	•
80.	978.			Š
69	5437.	0.2	-	Š
41.	6724.	- 4.	33.	•
.60	8241.	7.8	6	,
00	8688.	1.6	•	\$
87.	9291.	- 6.05	23.	*
76.	9654.	- 4.55	25.	è
69.	0212.	- 25.52	24.	4.
61.	0622.	- 6.55	•	-
48.	1315.	- 7.85	35.	3.
39.	1844.	- 8. 42	\$8.	÷
400.0	4035.	•	42.	
77	7774	78.5	6	0

STATION AL 10 FEB. 84 ASCENSION	ALTITUBE 41 84 M NO. S	73.44 0900 x	FEET MSL HS HST		USPER AIR BAT 0410320005 Lana Table 14	05 05		6E0DE 11C 33.1	SC COORDINATES 13510 LAT DEG 15446 LON DEG
SECNETRIC ALTITUDE ISL FEET	PRESSURE MILLIBARS	TEMI AIP Degres	MPERATURE Deupoint S centigrade	REL.HUM. Percent	DENSITY GA/CUBIC METER	SPEED OF Sound Knots	WIND DA DIRFCTION DEGREES(TN)	ATA SPEED KNOTS	INDEX Of REFRACTION
4173.4		7.0	0-9-	-	1077.6	55.	ć	•	
50.	861.7	6		21.6	20	. 50	192.R		.0002
2000.0		0	-11.9	ċ		56	•	•	.00024
5500.0	830.6	13.0	-12.7	.		55	•		.00023
0.0009	815.4	7.6	13.4		05.	5.4	•		.00023
6500-0	800.5	4.80	-14.2	18.5	•	654.0	238.8	21.3	.00023
2000	785.8	\$°.2	-14.9	.	74.	2	•	S	-0005
7500.0	771.5	æ .	-15.7	ຜໍ່ເ	29	25	252.7	e	-00025
8000.0	757	0:0	-16.5	æ,	944.5	2	257.1	· •	-0002
8500.0		9.	7-11-	٠,	ġ,	2;	25.52	;	.00021
9000.0	\$. k		00	•		2.0	1.757	٠.	12000.
0.0004	2 2) ·	7.00		vo)	0.462	D .	7000
10000			2.16	: 2	, ,	o v	24.14		2000
11000-0	676	•	-22.6		867.4	7 4	251.1	> -	3 6
11500.0	663	-1.0	-23.6		40	642.8	253.7	~	.0001
12000.0	651	-2.2	-24.7	\$	36.	4	255.9	~	.0001
12500.0	638	-3.5	-25.8	\$	54	636.6	256.9	3.	.0001
13000.0	929	1.9-	-26.9	15.5	12.	638.5	256.3	Š	.0001
13560.0	614	6.5-	-23.0	\$	6	637.0	253.5	•	.00018
14000-0	209	~ (-59.1	٠,	9 9	635.5	252.2	42.5	00017
14500.0	192	20 0	7.0	•	-	654.1	555.5	~	71000
0.0000	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	•	7.7.	٠.		•	1555	- 0	71000
16000.0	55.7	4.4	- 12-	~ ~	74.1.8	0 «	356.9	78.0	741000.1
16500.0	246	-12.d	7088-		0	628			00016
17000.0	535	-14.2	-32.6	0	20.2	62		•	00016
17500.0	\$24	~	-31.0	•	8	625	257.9	•	00016
18000.0	514	~	-30.1	÷	ò	623	•	0	9015
13500.0	2 03	•	-25.9	:	Š	621	•	•	0015
19000.0	493	-20.0	'n	.	6	9		-	.00015
19500.0	483	->1.5	×	•	ė,	618	•	•	00015
20000.0	473	-24.3	2	- :	57,	•	257.7	\sim	.00015
20500.0	797	•	28	8.09	ζ,	616	258.7	.	.00014
21000.0	454	-25.5	2		~	615		•	.00014
21500.0	643	1.72-	9	.	~ ,	614.	260.8	2	0014
22000.0	4 5 5	۲,	, . ,	ġ.	~ :	613	•	•	0013
0007	0 !	ė	·	•				: ,	200
000	•	÷ (; ,	77.1	59 4. 2	10	9.792	7.24	000
3500	7.6.14	0.62-	6.13-			608.7		•	1.00011

ASCENSION NO.	2 20 20 20 20 20 20 20 20 20 20 20 20 20	241 0060		3	TABLE 14 CONT'D	CONT'D		6E09611 33. 106.	GEODETIC COORDINATES 33-13510 LAT DEG 106-1546 LON DEG	
1 1 1	ALTITUDE MSL FEET MILLIBARS	A18 DEGREES	AIR DEWPOINT DEGRES CENTIORADE	PERCENT	PERCENT GN/CUBIC NETER	SOUND KNO1S	DIRECTION SPEC DEGREESCIN) KNOT	SPEED KNOTS	INDEX OF REFRACTION	
24000.0		-10.3	-42.8	28.0	574.6	607.1	269.0	6.44	1.000129	
e .	392.0	-11.5	-43.9	28.1	565.2		270.4	45.3	1.000127	
0.0		-12.8	6.44-	28.3	555.9		271.2	45.2	1.000125	
0.0		-34.0	-45.9	28.5	546.7		271.7	44.8	1.000122	
0.0		-35.3	-47.0	28.6	537.8			1	1.000120	
0.0		-16.5	-48.0	28.8	529.0				1,000118	
0.0		2.12-	-49.1	26.9	520.3	597.8			1,000116	

TEMPERATI	PRESSURE GEOPUTENIIAL
TA	ASCENSION NO. S
LAN	10 FEB. 84 0900 HKS MST
26	STATION ALTITUDE 4173.44 FEET MSL
MANDA	

CONTRACTOR SECURITY S

GEODETIC COORDINATES 33,13510 LAT DEG 106,1546 LON DEG										•		
6600671C C 33,135 106,154	DATA Speed V Knots	7.9	21.4	31.3	28.9	32.8	42.5	38.1	41.6	43.2	6.44	
	WIND DATA DIRECTION SI DEGREFS(IN) KI	211.2	239.2	259.1	251.1	256.0	252.2	256.9	257.5	260.6	269.1	
EVELS 15	REL.HUM. Percent	20.	10.	18.	17.	16.	15.	16.	65.	35.	28.	29.
MANDATORY LEVELS 3410320005 LANA TABLE 15	TEMPERATURE AIR DEUPOINT DEGREES CENTIGRADE	-11.7	-14.2	-16.0	-20.7	-24.B	-29.4	-33.2	-24.0	-34.7	-42.0	-49.3
Ī	TEMPE Air Degrees C	10.2	 	5.5	1.7	-2.3	7.7-	-12.4	-19.1	-23.6	-30.4	-38.0
#SL 5.7	OPUTENTIAL FEET	4870.	6510.	8257.	10094.	12038.	14103.	16305.	18664.	21202.	23997.	27064.
4123.44 FEET MSL 0900 HAS MST 5	PRESSURE GEOPUTENTIAL MILLIHARS FEET	0°05%	0°00%	75.1.0	700.0	0°u59	600.0	550.0	200.0	45.0	400	45.0

STATION ALTITUDE 10 FEB. 84 Ascension no.	4186.74 FELT VSL 091P HRS MST 5	צר	SIGNIFIC O4 TA TA	SIGNIFICANT LEVEL D 0410210005 RITA TABLE 16	4 1 4 1	GEODETIC COORDINAT 33.18295 LAT D 106.15114 LON D
	PHESSURE	GEOMETRIC Altitude	TEMPE	TEMPERATURE IN DEUPOINT	REL.HUM. Percent	
	MILLIBARS	MSL FEET	S	CENTIGRADE		
	172.1	4186.7	6.8	-11.1	23.0	
	₽60 .8	4541.8	10.3	6.6-	23.0	
	1.55.0	4725.9	8.8	-11.7	22.0	
	0.02.	4885.4	6*5	-11.4	21.0	
	145.0	5027.0	10.5	-12.1	14.0	
		8379.9	6.4	-17.4	18.0	
		10110.7	2.0	-21.1	16.0	
•		13754.9	7.2-	-25.9	21.0	
		15028.2	-10.4	-29.5	19.0	
		16291.3	-12.6	- 13.1	16.0	
		18089:0	7.71-	-30.7	30.0	
	0.00.	18680.6	-19.5	-25.1	61.0	
		19303.0	-20.8	-23.5	0.67	
		19704.5	-22 .0	-73.6	87.0	
		19821.0	-22.0	6.42-	77.0	
		20344.6	-21.5	-32.2	37.0	
		20757.8	-22.2	0.75-	33.0	
		24030.0	-30.5	6.44-	23.0	
		26258.8	-35.2	-47.5	27.0	
		26844.9	-37.0	0.67-	27.0	
		30519.7	-47.0			

	117UDE 41	- ·	T MSL		~ 8	DATA 05		GEODETIC	COORDINATE
10 feb. 84 Ascension	NO. 5	0910 HRS	#ST		RITA TABLE 17			106.1	18295 LAT DEG 15114 LON DEG
JIOLSWUJ	101127300	3 d # 4 x	701110	MINTER	YILVATI	SPFFB OF	140 CZT3	•	2 E
ALT 17UBE	2	4	E 60	CENT	CUB 1C	SOUND	NG 1 L	SPEE	5
MSL FEET	MILLIBARS		CENT 1GRADE		METER	KNOTS	DEGREES (TN)	KNOTS	REFRACTION
4186.7	872.1	•	-11.1	ω.	7.5	54.	•		~
4500.0	862	10.1	-10.0	23.0	9	656.1	•		7
2000 •0	846.	10.4	-12.0	0	1038.8	56.	208.1	9.5	1.000243
5500.0	3 €	7.6	•	-	\sim	55.	714.0	3.	×.
0.0008	815	8.9	-13.6	18.7		5	217.2		n
6500.0		0. E	3		-	53.	230.6	19.8	00024
2000-0	786	7.2	•	٠	75.	٠,	240.0	'n,	1.000226
7500.0	(7)	4.9	ġ.	18.3		51.	247.6	•	2000
8000.0		\$ ° \$	· .	: پە	9 7	20.	252.6	•	1.000219
0.0058	743.6	1.5		٠,		•	255.0	•	12000.
0.0006	729	ь. •	. o c			•	257.1	20.8	2000
0.0056	7.16		.	•		•	250.4	.	07000.
10000.0	202	2.5	•			0 5	755.7		02000
10500.0	629	•		•		•	254.9	2.82	9
11000.0	929	1	25	17.2	863.2	643.7	0.952		00019
11500.0	700	~ 1	9-22-		820.0	u (22.63	-,	41000
12000.0	651.0	6.2-	-23.5	38.0	2 × × × × × × × × × × × × × × × × × × ×	9.079	7.862	32.6	1.000192
0.00021	, ,		7.4.2	•	1.020	• > r	250.4		
1 2000.0	070	-7.5	0.47-	0.07	814.9	•	0.462	, ,	1.000130
0.000.1		0 a		4 0 6		9 4	8 750	•	
14500.0	203	0	0.82-	0 4	770.6	^ PC	254.2	• 4	71000
15000.0	5/9	. 0	6	19.0	' ~	5	754.4		00017
15500.0	568	-	8.61-	17.7		30	257.5	,	00017
1.0000.0	557	-12.1	-12.3	15.7		ċ	259.3	Š	00016
16500.0	540	3	-32.6	17.6	-	æ	259.5	Š	ø
17003.0	535	-14.5	-	21.5	720.5	56	260.2	\$.00016
17500.0	\$25	~ 1	-	25.4	•	25	760.4	•	00016
16000.0	514	~		29.3	0 (53	261.4	37.3	.00015
18500.0	200	7.00	3	٠. د د د		- 0	20.00	٠.	2000
0.0000		> •	•	•	•	•	2.002	•	
19500.0	400.0	•	-(3.5	٠.			2.002	•	21000
0.00005	() ·	- •	ė.,	5.0	÷ :	_ ;	۲۰۵۵	•	.00015
0.0000	603	:	?:	i.		<u>;</u>	•		-
2.00012	424	٠.	;	ri (3.5	9	٠,	٠.	.00014
21500:0	757	•	9	•	٠,	٠		٠,	*
22000.0	435	<u>.</u>	50 1	2.6.7	617.3	- ,	•		<u>~.</u> !
22550.0	924	9 (7.6.	٠.	٠,	_:			033
23000.0	417	•	-41.3	ο.		9	. 65		1000
23500.0	•	20.5	-43.0	9.42	8 .	608.6	267.3	•	1.000131

STATION AL		56.74 FEI	t msi	-	0410210005	X . X 0		GEODETI	GEODETIC COORDINATES
10 FES. 84 .		USTO HAS MST	MST		PITA			33.	18295 LAT DEG
AS CENS 10N					TABLE 17 CONT'D	CONT. D		106.	106.15114 LON DEG
GEONE TRIC	PRE S SURE			RFL-HUM.	DENSITY	SPEED OF	AIND DATA	1.4	INDEX
ALTITUDE MSL FEET	MILLIBARS		AIP DEWPOINT DEGREES CENTIGRADE	PERCENT	GM/CUBIC Ne ter	SOUND	DEGREES(TN)	SPEED	OF REFRACTION
24000.0		-x0.4-	-44.7	23.1	574.8		269.6	39.4	1,000129
24500.0		-11.5	-45.3	23.8	565.0		271.5	0.04	1,000127
25000.0	383.6	-12.5	-45.9	2.45	555.3	604.3	272.6	39.4	1,000124
25500.0		-13.6	-46.5	25.6	545.9		272.9	36.5	1.000122
26000.0		-34.7	-47.1	26.5	536.6		273.6	37.7	1.000120
26500.0		6.51-	-48.1	27.0	527.9		274.A	37.4	1.000118
27000.0		7.2-	-49.8	25.9**	510.6		276.4	38.0	1.000116
27500.0		8.8.	-52.3	22.2**	511.0		277.8	39.3	1.000114
28000.0		-40.1	-54.9	18.6**	\$05.6		278.6	40.1	1.000112
28500.0		-41.5	-57.8	14.9.	494.3		279.1	40.4	1,000110
29000.0		-42.8	-61.1	11.344	486.2		279.2	40.1	1.000108
29590.6		-44.2	-65.1	7.6**	478.2		278.9	39.8	1,000107
30000.0		-45.5	1-00-	3.9.4	470.4				1.000105
30500.0		6.97-	-87.5	.300	462.7				1.000103

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

OL STABIL	•	SCENSION NO.
RITA	U91FF HRS MST) fEB. 84
0410210	TATION ALTITUDE 4186.74 FEET MSL	IATION ALTITUDE
MANDA TORY		

21			
Y LEVELS	410210005		18
A TORY	4102	TA	BLE

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RD 1N LAT	2
C 00 8 2 9 5	5114
53.1	÷
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PRESSUPE GE	GE OPOTENTIAL	TEMP	SERATURE PERSONNE	REL.HUM.	ATAG GNIV	DATA
MILLIMARS	1334	DEGREES	DEGREES CENTIONADE		•	KNOTS
P 5 !} • 0	4882.	6.6	-11.4	21.	206.0	8.7
PO'-0	6530.	8.0	-14.5	19.	231.4	20.0
750.0	8266.	5.1	-17.2	18.	254.0	30.1
70°0	10102.	2.0	-21.1	16.	255.5	28.1
0.733	12044.	-3.0	-23.5	19.	258.8	32.8
0°009	14103.	-8-3	-26.9	20.	254.7	34.3
550.0	16299.	-12.7	-33.0	16.	259.4	35.3
-00°	18656.	-19.5	25.1	61.	260.7	37.9
450.0	21205.	-23.4	-35.5	32.	263.1	36.4
400.0	23992.	-30.5	-44.B	23.	269.7	39.4
150.0	27067.	-37.7	-50.3	25.44	276.7	38.2
100°0	*0487.	-47.0	•			

** AT LEAST O'E ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

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